

ABSTRACT OF THE DISCLOSURE

An electrolytic process of ozone generation using platinum-coated titanium grid as cathode, β -PbO₂ deposited on the grid as anode, and batteries in conjunction with supercapacitors as a DC power source is described. No membrane is required to separate the electrodes, and a neutral salt such as NaCl is used to enhance the generation of ozone gas. The electrolytic apparatus comprising a cell, the electrodes, and a bubbler can also be inserted directly in water that needs ozone treatment. As batteries can power the ozone generation, the apparatus can be disposed at point-of-use and away from the city electricity. The electrolytic apparatus can be used for sterilization of water for pharmaceutical industry, household water supply, for surface cleaning of semiconductors, meats, fish, fruits, as well as for disinfection of SPA water and personal hygiene.